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IN THE UNITED STATES PATENT AND  
TRADEMARK OFFICE

**RECEIVED**

In the application of : L D Humphrey  
Serial No. : 09/257,223  
Filed : February 25, 1999  
For : Engineering Operations Channel Provision  
Examiner : K M George  
Art Unit : 2663

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Technology Center 2600

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Name of person signing Linda Mueller

Signature

**RESPONSE TO OFFICE ACTION MAILED DECEMBER 18, 2002**

Honorable Director of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir,

In response to the office action of December 18, 2002, reconsideration is requested, and no amendments are being filed. The following comments are made in response to the rejections.

In items 1 and 2, independent claims 1,7 and 12 are rejected under 35 U.S.C. § 103 for obviousness over Achilleoudis in view of Czerwiec and Lamport.

Achilleoudis shows using mini-cells for STM services and for ATM services over a cable network from a head end to a receiver at a subscriber. Figure 4 shows using the mini-cells for system data such as synchronization and housekeeping, the number of mini-cells allocated to these purposes "being adapted to the actual needs". The distribution of the various cell types "can differ per basic frame and is fully controlled by the head end.", (lines 40-45 of col 4). There is no disclosure of a number of claim features as follows:

- A) "an engineering operations channel in the form of a sequence of asynchronous mini-cells" which "is framed and byte oriented". There cannot be any channel for engineering operations (EOC) in Achilleoudis, since in this reference a single frame of mini-cells can contain a mixture of payload and system mini-cells. Hence, there is no separate channel for sending engineering operations information. The fact that the claim allows for packet voice traffic in spare capacity on the EOC does not alter this distinction, since the voice traffic is not carried unless there is insufficient Engineering Operations information to fill the channel. In other words, the Engineering Order information can have priority over payload data in the EOC.
- B) The EOC is scrambled.
- C) Means for synchronisation use null data on the EOC for the synchronisation.

These distinctive features are notable as they can contribute to making the transmission more efficient and more secure, while still having a separate channel with priority for the Engineering operations information. Limited efficiency is mentioned as a problem of prior art techniques at lines 1 and 2 of page 3 of the current application. Achilleoudis proposes a different solution, the unstructured mixture of system and payload data providing a "virtual structure to facilitate an easy implementation of multiple services."(lines 47-48 of col 4). There is no suggestion of a separate channel, nor of the other distinctive features. Distinctive features B) and C) do not make sense unless there is a separate channel for Engineering operations information as claimed.

Czerwiec is alleged to show feature B) and Lamport is alleged to show feature C). However, Czerwiec does not show an EOC, so it cannot show scrambling the EOC, as opposed to scrambling unstructured mixtures of system and payload data. Similarly, Lamport shows sending synchronisation bytes in the form of null bytes. As Lamport does not show an EOC, it cannot show the claim feature of means for synchronisation during null data on the EOC. Accordingly, it would not be obvious to combine Achilleoudis, Czerwiec and Lamport, as there is no incentive to do so. Even if the combination of Achilleoudis, Czerwiec and Lamport is made, it does not reach the present invention. There is no disclosure of a separate EOC channel, for Engineering operations information, to enable such information to have priority, so a combination would only result in a system which mixes payload and system information without separate channels or

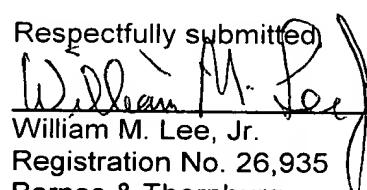
priorities, but with scrambling and null data for synchronisation with the mixed data. Including null data in such mixed data would cause a loss of efficiency. There is no suggestion that providing a separate channel for engineering operations information can improve the efficiency by using null data on that channel for synchronisation. As there is no suggestion of these advantages or how to achieve them, the invention could not have been obvious over the cited references taken alone or in combination. All the independent claims have these distinctive features and so are allowable for the same reasons.

Regarding the rejections under 35 U.S. C. § 103 in items 3 and 4 of the office action of independent claims 2, 6 and 13, Deng is alleged to show modems, and multiplexers at each end. These claims all have the distinctive features set out above. Deng does not show or suggest these distinctive features, and so these claims are allowable for the same reasons as set out above. The rejections of dependent claims fall away as they depend on allowable main claims.

All the points raised have now been dealt with, and favorable reconsideration is requested.

March 7, 2003

Respectfully submitted,



William M. Lee, Jr.  
Registration No. 26,935  
Barnes & Thornburg  
P.O. Box 2786  
Chicago, Illinois 60690-2786  
(312) 368-6620  
(312) 368-0034 (fax)